# The Professional Surveyors Association of Nebraska Presents

# "ENHANCEMENTS TO THE NATIONAL SPATIAL REFERENCE SYSTEM"

September 14, 2009

Crown Plaza Hotel 655 North 108th Ave. Omaha, NE 68154 (402) 496-0850



# **REGISTRATION 7:00-8:00 A.M. SEMINAR 8:00 A.M.-5:00 P.M.**

Continental Breakfast 7:00-8:00 A.M. Lunch at 12:00 NOON (Provided) Breaks at 10:15 A.M. and 2:45 P.M.



## PRESENTATION TOPICS

- Elements of the National Spatial Reference System:
  - Horizontal and Vertical Datum Definitions
  - International Terrestrial Reference Frame (ITRF)
  - World Geodetic System 1984
- Development of the Nebraska High Accuracy Reference Network
- NGS Continuously Operating Reference Station Network
- 2007 NAD 83 National Readjustment
- Relationship of NGVD 29 and NAVD 88
- NGS National Height Modernization Program:
  - Overview/Background
  - GPS Derived Heights
  - NGS Geoid Models
  - Maintenance of Vertical Geodetic Control Network

### **Featured Presenters**

#### DAVID DOYLE

Dave Doyle joined the National Geodetic Survey in 1972, and currently holds the position of chief geodetic surveyor. He is responsible for the development, technical design and management of plans and programs that enhance the United States National Spatial Reference System. He Provides technical assistance in Geodesy to International, Federal, State and local surveying, mapping and GIS agencies. Mr. Doyle's activities have included extensive efforts on the development and implementation of the North American Datum of 1983 and the North American Vertical Datum of 1988.

#### RENEE SHIELDS

Ms. Shields is a geodesist in the Geodetic Services of the National Geodetic Survey (NGS). Renee is currently Project Manager for the height Modernization Program, an effort that has 17 states as regular participants and additional activities in a number of other states. Renee has extensive experience in GPS and Geoid Height analysis, and has successfully used this experience to develop and conduct workshops around the country on incorporation of data into the NSRS. She coordinates and manages the program, through outreach activities, education, and development of policies and guidelines, with the goal of establishing nation-wide implementation of Height Modernization.